



**NAVAL WEAPONS STATION YORKTOWN  
YORKTOWN, VIRGINIA  
2003 WATER QUALITY REPORT**



Naval Weapons Station Yorktown is committed to providing you drinking water that is safe and reliable. We believe that providing you with accurate information about your water is the best way to assure you that your water is safe. This 2003 Water Quality Report will explain where your water comes from and lists all of the contaminants detected in your drinking water. We are happy to report that the levels of all contaminants detected in your drinking water were less than the Maximum Contaminant Levels prescribed by the Environmental Protection Agency (EPA) and the Virginia Department of Health.

Naval Weapons Station purchases drinking water from Newport News Water Works, owned and operated by the City of Newport News. Newport News uses a river, five reservoirs, and streams, (all considered 'surface water') as their primary water source and recently began using groundwater as a secondary source.

**DRINKING WATER AND YOUR HEALTH**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Contaminants that may be present in source water include: (1) *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. (4) *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems. (5) *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and/or Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other

microbial contaminants are available from the EPA Safe Drinking Water Hotline (800-426-4791).

Kidney dialysis patients should consult with their health care providers or dialysis centers in order to take special precautions when using chloraminated water. Fish owners should be sure chloramines are removed from the water before it is used in aquariums or ponds. Most pet stores sell water conditioners for chloraminated water.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

A Waterworks Source Water Assessment has been completed and the information may be obtained by contacting the City of Newport News or the Virginia Department of Health at the numbers given at the end of this report.

## WATER QUALITY DATA

The data tables shown below list only those contaminants that were present in your drinking water at levels detectable by laboratory equipment. This information is based on testing done during 2003. The EPA sets the Maximum Contaminant Levels (MCLs) and the Maximum Contaminant Level Goals (MCLGs) listed in the tables. The Regulated Substances Table and the Unregulated Substances Table are provided for your information and as required by the Consumer Confidence Rule.

### REGULATED SUBSTANCES TABLE

Substance	Likely Source	Range	Detected Level	MCL	MCLG	Unit	Meets EPA Stds?
Barium	Erosion of natural deposits	16 - 28	28	2000	2000	ppb	Yes
Chloramines	Drinking water disinfectant	0.0 - 5.0	3.1	4 (MRDL)	4 (MRDLG)	ppm	Yes
Copper (2001 Data)	Corrosion of galvanized pipes; erosion of natural deposits	840	90th percentile = 760	AL = 1300 (0 samples exceeded AL)	1300	ppb	Yes
Fluoride	Added for the prevention of tooth decay	0.00 - 1.50	1.50*	4	4	ppm	Yes
Gross Alpha Activity (2001)	Erosion of natural deposits	0.8 - 0.9	0.9	15	0	pCi/L	Yes
Gross Beta Activity (2001)	Decay of natural deposits and man-made deposits	3.0 - 3.6	3.6	50***	0	pCi/L	Yes
Haloacetic Acids (HAA5)	Drinking water disinfection by-product	0 - 79	44**	60	0	ppb	Yes
Lead (2001)	Corrosion of household plumbing systems	ND - 29	90th percentile = 6	AL = 15 (1 samples exceeded AL)	0	ppb	Yes
Nitrate as Nitrogen	Erosion of natural deposits; runoff	ND - 0.13	0.13	10	10	ppm	Yes
Total Organic Carbon	Occurs naturally in the environment	1.03-1.65	1.0	TT	TT	N/A	Yes
Trihalomethanes (THM)	Drinking water disinfection by-product	13 - 103	49**	80	0	ppb	Yes

The City of Newport News did not provide average values for this regulated contaminants table.

\* This number is the highest monthly value of compliance samples for the calendar year.

\*\* The detected level is the highest running annual average calculated during the calendar year.

\*\*\* The MCL for beta particles is 4 mrem/year (mrem = millirem, a measure of radiation absorbed by the body.) EPA considers 50 pCi/L to be the level of concern.

ND - Not Detected

TT - Treatment Technique. A required process intended to reduce the level of a substance in drinking water.

--Chloramines have an MRDL (Maximum Residual Disinfectant Level Goal) instead of an MCL and MCLG.

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--The common source of beta particles is the decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation know as photons and beta radiation.

#### TURBIDITY TABLE

Substance	Likely Source	Lowest monthly percentage of samples meeting the limit	Highest Level (NTUs)	MCL	MCLG	Unit	Meets EPA Stds?
Turbidity	Soil runoff	100%	0.65	<95%	N/A	NTU	Yes

Turbidity is a measure of the cloudiness of water. Turbidity, by itself, is not harmful, but it can interfere with the disinfection of drinking water

#### COLIFORMS TABLE

Substance	Likely Source	Range	Highest Monthly Level	MCL	MCLG	Unit	Meets EPA Stds?
Total Coliform Bacteria	Naturally present in the environment	0-1	1 (August 2003)	Presence of coliform bacteria in more than one monthly sample*	0	N/A	Yes

\*For a system that collects fewer than 40 samples per month.

#### UNREGULATED SUBSTANCES TABLE

All results in this table are from 2002 miscellaneous analyses of finished water at the treatment plant.

Substance	Likely Source	Range	Avg. Level	Highest Level	MCL	Unit
Aluminum (2002)	Erosion of natural deposits. It also comes from the addition of treatment chemicals at the water treatment plant.	ND - 0.001	ND	0.001	None	ppm
Ammonia (2002)	Runoff	0.41 - 0.74	0.55	0.74	None	ppm
Magnesium (2002)	Occurs naturally in the environment	1.16 - 4.76	1.88	4.76	None	ppm
Ortho-Phosphorus (2002)	Pesticide component	0.12 - 0.27	0.21	0.27	None	ppm
Potassium (2002)	Occurs naturally in the environment	1.03 - 3.16	1.99	3.16	None	ppm
Silica (2002)	Occurs naturally in the environment	2.51 - 8.83	5.3	8.83	None	ppm
Sodium (2002)	Occurs naturally in the environment; also comes from the addition of treatment chemicals at the water treatment plant.	5.2 - 36.4	11.5	36.4	None*	ppm

\* For physician-prescribed "no salt diets" a limit of 20 ppm is suggested.

**DEFINITIONS**

- **Action Level (AL)** - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Coliform** - A group of bacteria commonly found in the environment. They are an indicator of potential contamination of water. Adequate and appropriate disinfection effectively destroys coliform bacteria.
- **Contaminant** - Any natural or man-made physical, chemical, biological, or radiological substance or matter in water, which is at a level that may have an adverse effect on public health, and which is known or anticipated to occur in public water systems.
- **Disinfection** - A process that effectively destroys coliform bacteria.
- **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Nitrates** - A dissolved form of nitrogen found in fertilizers and sewage by-products which may leach into groundwater and other water sources. Nitrates may also occur naturally in some waters.
- **NTU (nephelometric turbidity unit)** - A measure of the clarity of water.
- **Pathogens, disease-causing pathogens, waterborne pathogens** - A pathogen is a bacterium, virus, or parasite that causes or is capable of causing disease. Pathogens may contaminate water and cause waterborne disease.
- **pCi/L, picocuries per liter** - A measurement of radiation released by a set amount of a certain compound.
- **pH** - A measure of the acidity or alkalinity of water.
- **ppb, ppm** - part per billion, part per million. Measurements of the amount of contaminant per unit of water. A part per million is like one cent in \$10,000 and a part per billion like one cent in \$10,000,000.
- **Trihalomethanes (THM)** - Four separate compounds (chloroform, dichlorobromomethane, dibromochloromethane, and bromoform) that form as a result of disinfection.
- **Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.
- **Turbidity** - A measure of the cloudiness of water caused by suspended particles.

**NEED MORE INFORMATION? TRY ANY OR ALL OF THE FOLLOWING:**

- Ms. Deborah Meredith, Potable Water Program Manager, 757-444-3009 extension 391 or e-mail: [meredithdd@pwcnorva.navy.mil](mailto:meredithdd@pwcnorva.navy.mil)
- City of Newport News Website: [www.nngov.com/wwdept](http://www.nngov.com/wwdept)
- State of Virginia Department of Health Website: [www.vdh.state.va.us/dw](http://www.vdh.state.va.us/dw)
- Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791
- Environmental Protection Agency Website: [www.epa.gov/safewater](http://www.epa.gov/safewater)